TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Colorado Department of Transportation

INSTRUCTIONS:
Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion (2 or 3 sentences) of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.

Transportation Pooled Fund Program Project # *(i.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX)* TPF-5(260)		**Transportation Pooled Fund Program - Report Period:** ☑ Quarter 1 (January 1 – March 31) ☐ Quarter 2 (April 1 – June 30) ☐ Quarter 3 (July 1 – September 30) ☐ Quarter 4 (October 1 – December 31)
Project Title: Project Five: Investigating Project Bundling Practices for Roadway Construction Projects		
Name of Project Manager(s): David Reeves	**Phone Number:** 303-757-9518	**E-Mail** david.reeves@dot.state.co.us
Lead Agency Project ID: SPR-5260.20.06 TCM	**Other Project ID (i.e., contract #):** PO# 411023029	**Project Start Date:** 01/10/2020
Original Project End Date: 01/10/2022	**Current Project End Date:** 01/10/2022	**Number of Extensions:** 0

Project schedule status:

☑ On schedule ☐ On revised schedule ☐ Ahead of schedule ☐ Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Percentage of Work Completed to Date
$125,000	$61,010	60%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
7.84%	$9,811	61.0%

Project Description:

Project bundling for bridges has been empirically documented by various state DOTs to have the benefits of reducing overall construction costs, shortening project delivery, and reducing staff time for paperwork and contract administration through bundling multiple smaller projects in similar nature within their proximity into a single larger contract. The efficiency in project delivery, costs, and the level of staff requirement arises from the economy of scale through bundling. Recently, FHWA developed a guidebook on project bundling with a primary focus on bridge projects. In that guidebook, a wealth of knowledge and practices were extracted from case studies of various pilot and regular bridge bundling projects from different state DOTs. However, roadway (such as added travel lanes, resurfacing, intersection improvement, interchange work, shoulder rehabilitation and repair, etc.) construction project bundling was not part of that guidebook. Although many lessons can be learned from bridge bundling, unique aspects may exist in roadway construction bundling and have not been studied thoroughly.

The objective of this research is to explore the best practices to bundle projects through the survey and case studies of state departments of transportation (DOTs) that are using project bundling. The final research project will document the entire research effort as well as include be a compilation of documentation (e.g. requests for proposals (RFPs), sample contracts, flowcharts, checklist, and other tools) that the state DOTs are using in their current project bundling efforts for roadwork projects.

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):

During this quarter, the research team has completed the remaining portion of the statistical analysis and completed the report of the survey analysis results. Both the descriptive statistics and statistical tests of the survey result have been distributed to survey participants and the research oversight team. Based on the survey result, the team has identified potential state DOTs for case studies. The team has started sending invites to those potential states that have employed project bundling practices during the planning and programming stages.

Anticipated work next quarter:

The research team will continue to follow up on the potential state DOTs for case study participation. The team will schedule interviews with state DOTs that are willing to participate in the follow-up interviews for case studies. The interviews will be conducted, recorded, and transcribed for later synthesis and analysis.

Significant Results:

Through the nation-wide questionnaire of various state DOTs across the country, the following major findings were identified:

1. The Project Bundling method has been practiced by state DOTs in many bridge and non-bridge projects by combining multiple projects to form a single larger contract. However, a lot of states do not have a standardized process yet.
2. The most frequently considered factors during the bundling of projects by state DOTs are work type, project type, spatial proximity, and project risks. The state DOTs with a higher level of experience with bundling tend to consider more factors when building a project bundle.
3. The survey found that the major advantages or benefits of the project bundling are that bundling:
   - reduces the cost of the individual projects in a bundle,
   - reduces agency administrative costs,
   - affords the contractor flexibility in scheduling an individual project around other projects, and
   - reduces the project delivery time per project.

The survey found that there were 0-20% time and cost savings in bundled projects.

4. Despite various advantages associated with project bundling, there are still some concerns expressed by the state DOTs. For instance, project bundling can sometimes impose the risk of complexity and maximize the impacts, such as delaying the schedule and increasing the cost of repetition.
5. Several state DOTs also expressed the concern of eliminating the competition from smaller contractors when bundling is used.

Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).

Potential Implementation:

The team believes that the final report will be a great resource to help the state DOTs understand the current state-of-practice in project bundling beyond bridge projects as well as implement advanced project bundling techniques. The report will also include cases studies of bundled projects as well as samples of requests for proposal (RFP) for different types of bundled projects, which will facilitate the implementation of project bundling and reap associated benefits.